

Amendments to the Specification

At specification page 1, after the paragraph beginning with "[t]his is a nationalization," insert the following headings:

BACKGROUND OF THE INVENTION

1. Field of the Invention

At specification page 1, replace the paragraph beginning with "[t]he invention relates to" with the following replacement paragraph:

The invention relates to a process ~~according to the generic term of claim 1~~ for automatically adjusting the position of rollers involved in a printing process.

At specification page 1, after the paragraph beginning with "[t]he invention relates to," insert the following heading:

2. Description of the Prior Art

At specification page 1, replace the paragraph beginning with "[s]uch a process is known" with the following replacement paragraph:

Such a process is known from ~~DE 101 45 927~~ DE 101 45 957. This patent application describes the process of automatically adjusting the positions of the rollers involved in the printing

process following a job changeover. Furthermore, it contains the detailed description of a printing machine that has the characteristics of the generic term of claim 4 and therefore enables the execution of said process. This patent application does not contain an in-depth description and graphic illustration of said device and/or said process. Hence, the corresponding passages of ~~DE 101 45 927~~ DE 101 45 957 must be consulted ~~for the intelligibility of~~ in conjunction with the present application, and are herewith ~~included~~ expressly incorporated by reference in this application as if fully set forth herein.

At specification page 1, replace the paragraph beginning with "[s]urprisingly, however," with the following replacement paragraph:

Surprisingly, however, in case of high printing speeds, there is an incidence of variations in the ink intensity of the print image transferred that are attributed to variations in the ink quantity transferred during the printing process. As a rule, the ink intensity ~~reduces~~ decreases. According to the opinion of the patent applicant, the reasons for this surprising effect lie in the variations of the effective radius of the rollers involved in the printing process and in the separation behavior of the printing inks. The former effect is specified in the present description.

At specification page 2, replace the paragraph beginning with "[t]herefore the task of" with the following replacement paragraph:

Therefore the ~~task~~ object of the present invention is to minimize these variations.

At specification page 2, after the paragraph beginning with "[t]herefore the object of the invention," insert the following heading:

SUMMARY OF THE INVENTION

At specification page 2, replace the paragraph beginning with "[a]ccording to the invention," with the following replacement paragraph:

~~According to the invention~~ Accordingly, this ~~task object~~ is ~~solved~~ attained by the features ~~specified in the characteristics of claim 1~~ of the invention as described herein.

At specification page 2, replace the paragraph beginning with "[f]or the purpose of understanding" with the following replacement paragraph:

For the purpose of understanding the scope of the present invention, it is important that the "set values" ~~defined in claims 1 and 4~~ described herein can be determined in the form described in

~~DE 101 45 925~~ DE 101 45 957, i.e. they can be derived in a "digital set form" of the printed image that is stored in a storage device.

At specification page 2, replace the paragraph beginning with "[h]owever," with the following replacement paragraph:

However, "set values" as defined in this invention can also be determined by evaluating the characteristic progression of the intensity of the reflected light. This characteristic progression develops while engaging the rollers involved in the printing process. This characteristic progression and its evaluation for adjusting the roller positions are also described in ~~DE 101 45 925~~ DE 101 45 957. The set values defined in the present patent application relate to a light intensity value that is recorded by the camera at a definite point in the characteristic progression of the light intensity. This light intensity value, which is usually derived during the proof print and/or the number of light intensity values forming the composition of the print image or its sections, can be stored. It can subsequently be output from the storage device during the printing process as the set values defined in this patent application and used for regulatory purposes. However, a set value of the light intensity can also be a light intensity value that is recorded repeatedly at a definite point in the characteristic progression of the light intensity during the printing operation if necessary.

At specification page 3, replace the paragraph beginning with "[t]he wording," with the following replacement paragraph:

The wording, "at least one sensor - for instance, a camera - records the intensity of light experiencing an interaction with the printed material" ~~mentioned in the characteristics of claim 1~~ as used herein includes explicitly all sensors that are suited for recording light intensity. Most of these sensors known from prior art ~~work~~ operate on the basis of photoelectric effect wherein in recent times preferably semiconductors are used as optically active materials. Semiconductors are also a component of electronic cameras. In this context, CCD cameras (CCD = Charge Coupled Device) are included among the sensor systems that are used preferably.

At specification page 4, replace the paragraph beginning with "[a]dditional embodiments of the invention" with the following replacement paragraph:

Additional embodiments of the invention are explained in the present description and in the claims, with reference being had to the accompanying drawings forming a part hereof. ~~The individual figures illustrate:~~

At specification page 4, after the paragraph beginning with "[a]dditional embodiments of the invention," insert the following heading:

BRIEF DESCRIPTION OF THE DRAWINGS

At specification page 4, after the paragraph beginning with "Fig. 2" (i.e., the brief description of Figure 2), insert the following heading and new paragraph:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Further scope of applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

At specification page 4, replace the paragraph beginning with "[f]igure 1 illustrates" with the following replacement paragraph:

Figure 1 illustrates the position of the plate roller K in an example of an inking unit comprising the plate roller K during the printing process. The plate roller K and other flexible

materials involved in the printing process such as the rubber coating (not illustrated in the ~~figure~~ drawing figures) that can also be present on the impression roller in other flexographic printing machines and the printing substrate (also not illustrated) are exposed to strong forces in the printing process. Thus the plate 12 is ~~squashed~~ compressed along the pressure line D between the impression roller 11 and the plate roller K. A similar process takes place on the pressure line 13 between the plate roller K and the inking roller F. During a fast rotation of the roller K around its rotation axis M it is possible that the deformation, particularly of the plate, on the aforementioned pressure line K and 13 is no longer compensated for by the reset forces of the squeezed material 11, 12, K before the squeezed material reaches the pressure line D again. Therefore in this case, the effective radius R_{eff} , that indicates the distance between the outer circumference of the plate and the rotation axis M immediately before the pressure line D is reached again, falls. However, this effective radius R_{eff} is decisive for the quality of the printing process. In the case described above of the shrinkage of the effective radius, the physical pressure on the pressure line D falls, adversely affecting the ink transfer on the printing substrate. In this case the operator of the printing machine or the machine control system of a flexographic printing machine ~~ought to~~

should place the plate roller more strongly against the impression roller 11.

At specification page 6, after the last line, insert the following new paragraph:

The invention being thus described, it will be apparent that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the invention, and all such modifications as would be recognized by one skilled in the art are intended to be included within the scope of the following claims.

At specification page 1/3 (i.e., the first claims page), replace the heading with the following replacement heading:

~~Patent Claims~~ WHAT IS CLAIMED IS: